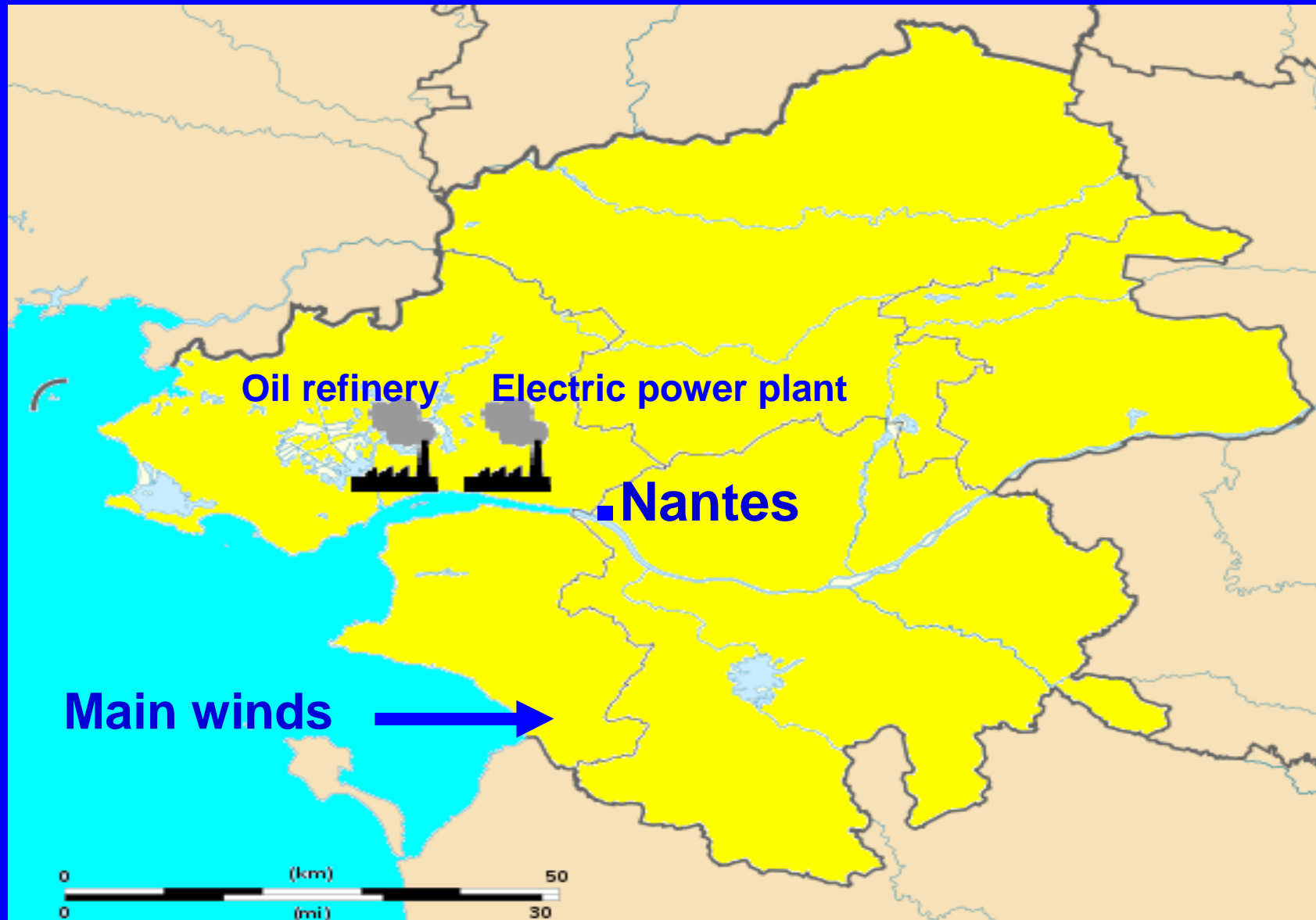


Study of the air quality with an analysis of lichens



Polluting industries



Lichens, bio-indicators sensitive to air pollution

PLANT	LICHENS
Leaves covered with a protective and waterproof cuticle	No cuticle – contact direct air
No activity in winter	Active all year after rain
Draw water and mineral salts in the ground	Food dependent on air and rainwater
Stomata leaves can be close to polluting agents	Lack of inputs and outputs control system
Seeds protected by a tough envelope so no contact with air polluting agents	apothecium in direct contact with polluting agents
Germination of seeds in the ground, no contact with air polluting agents	Elements from germination immediately in contact with air polluting agents
Rapid Growth	Slow

Making a lichen sample



Types of thalluses



Colour of the thallus
green-grey to blue-grey
orange yellow mainly brown

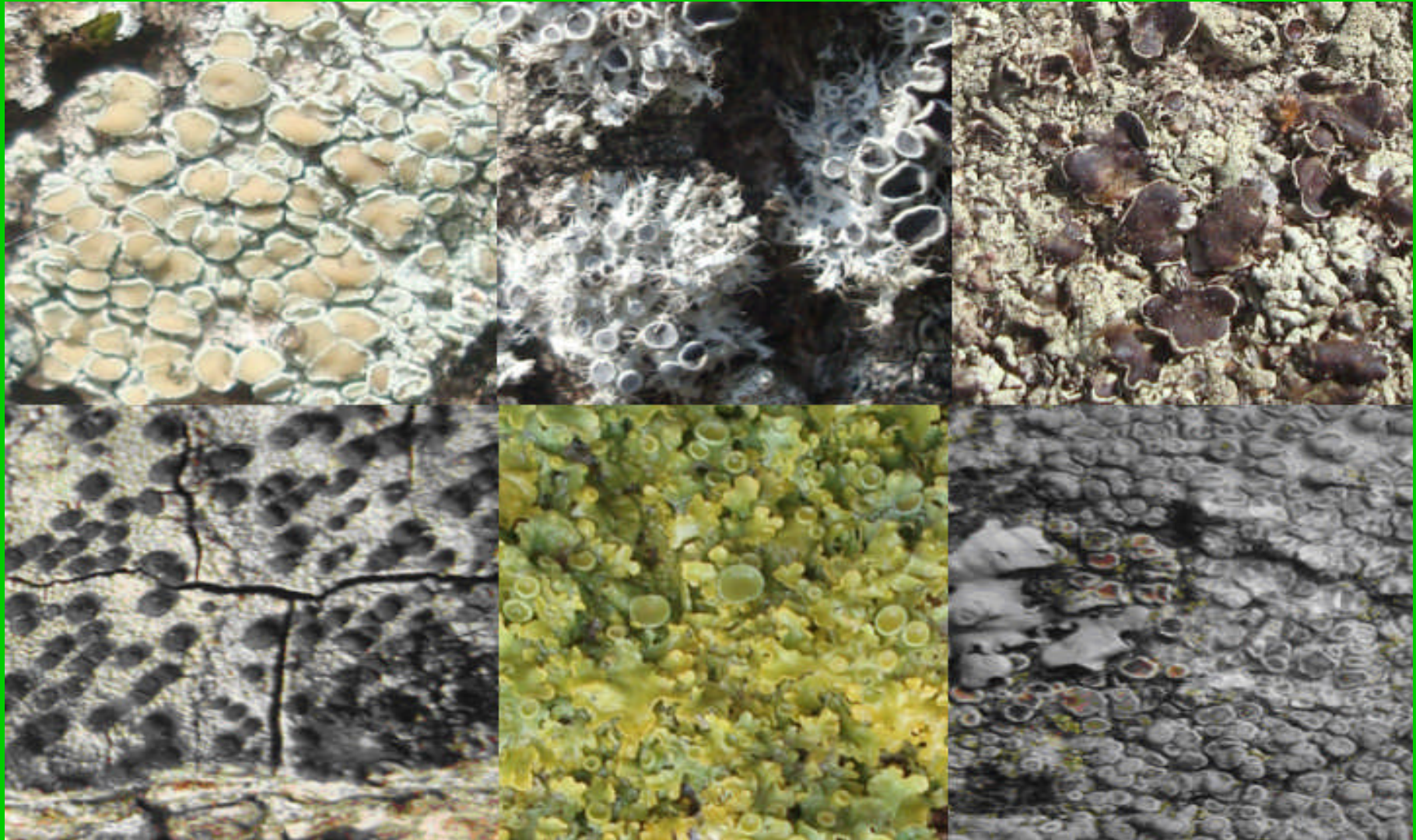


Colour reactions of the thallus

Bleach and potash



Apothecium (size - shape- colour)



Results of the first lichen sample

Species of lichens	($\mu\text{g.m}^3$)	Level of pollution
Pleurococcus viridis	About 170	Extremely high
Buellia punctata - Lecanora conizaeoides	About 150	Very high
Lecanora expallens - Lepraria incana	About 125	High
Diploicia canescens - Physcia tenella Xanthoria polycarpa	About 70	Rather high
Physcia adscendens Physconia grisea - Xanthoria parietina	About 60	Average
Ramalina farinacea - Pamerlia caperata	About 50	low
Parmelia perlata - Ramalina fraxinea	About 30	Very low
Lobaria amplissima - Usnea articulata		pure

Second lichen statement



Ash tadpole



**Going to Héron island
on foot at low tide**



Results of the second lichen report

Species of lichens	($\mu\text{g.m}^3$)	Level of pollution
Pleurococcus viridis	About 170	Extremely high
Buellia punctata- Lecanora conizaeoides	About 150	Very high
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location of Héron island

